Work Order ID 119252

119252

May-14-14 10:32:12 AM

Item ID: D4635-4 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Aft Ceiling Panel, RH

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLJ **Date:** 14-05-14 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr: D4635 / Revision Nbr: E									DAS 07 9-89
100	HAND FINISHING THERMOFORMING	0.00							
100 Thermoform	**Memo** Cut Blanks	0.00				X1			14/05/14
Thermoforming Machine									
105	Dry Material	0.00							DAS 07 9-89
105 HandThermo	**Memo** Dry Sheet as per QSI022 POLYCARBONATE	0.00				X1			14/05/14
Hand Finishing Thermoforming	Temp: 245 deg Time IN: 5:00 PM Time OUT: 6:00 AM	MAY 14 2014							
		Per.....							

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 119252

119252

May-14-14 10:32:12 AM

Item ID: D4635-4 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Aft Ceiling Panel, RH

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE					X1			
Thermoform	**Memo**	0.00							14/05/14
Thermoforming Machine	Thermoform as per Dwg. D4635-4 and Folio FTA150								
	Dwg. Rev. E								
	Folio Rev. D								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					X1			14/06/09
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	QC6- Inspect dimensions to drawing	0.00							DAS 27 9-89
140	Dimensional Inspection								
QC	**Memo**	0.00							4/6/13
Quality Control	Fill out Inspection Sheet Rev A								

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Work Order ID 119252

119252

May-14-14 10:32:12 AM

Item ID: D4635-4 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Aft Ceiling Panel, RH

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O	0.00							
	Memo N/A	0.00 DAS 27 9-89 14/14/13							
160 *160* Packaging Packaging	Packaging	0.00							
	Memo Section: MF	0.00							
170 *170* QC Quality Control	QC21- Final Inspection - Work Order Release	0.00							
	Memo	0.00							

(1) SM 14/06/14

14/6/18

14-6-18

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

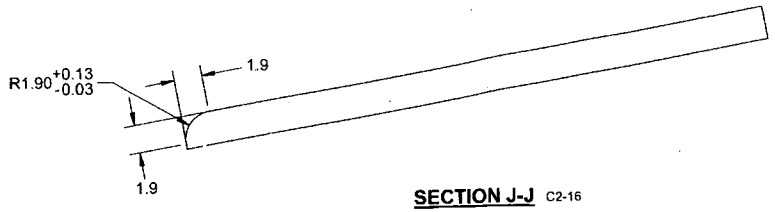
☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

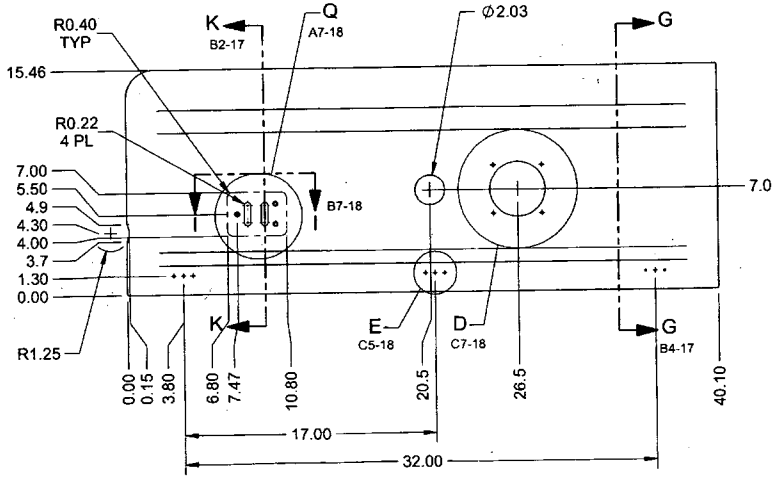
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

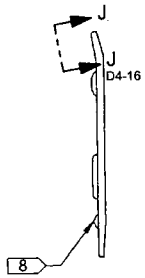
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other



SECTION J-J C2-16





SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 119252 MCJ
14-05-14

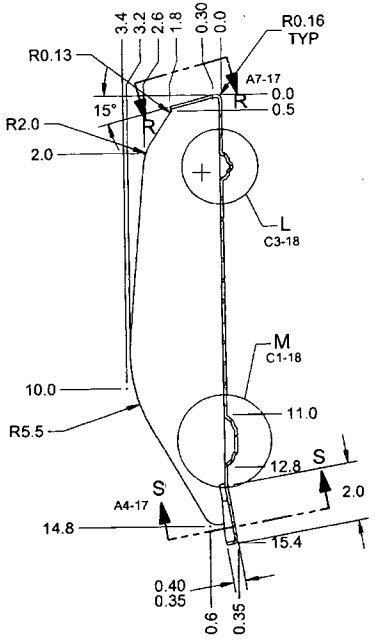
RELEASED
2014-01-22

D4635-4 RH, AFT CEILING PANEL

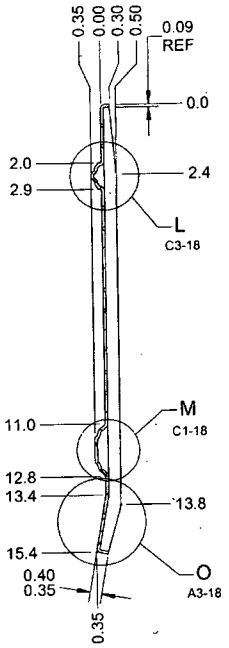
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 2.66 lbs
8) TEXTURE ON THIS SIDE
9) TRIM D4635-4 PER TOOL DT9842
10) THERMOFORM D4635-4 PER QSI 022 USING DT9850 TOOL
MIN. THICKNESS AFTER FORMING:
RIDGES/EDGES = 0.060
ELSEWHERE = 0.070

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4635 REV. E
CHECKED	DC	SHEET 16 OF 18
MFG. APPR.		TITLE OUTBOARD CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.01.09	

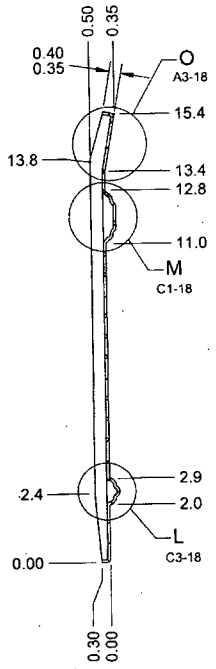
COPYRIGHT © 2012 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD



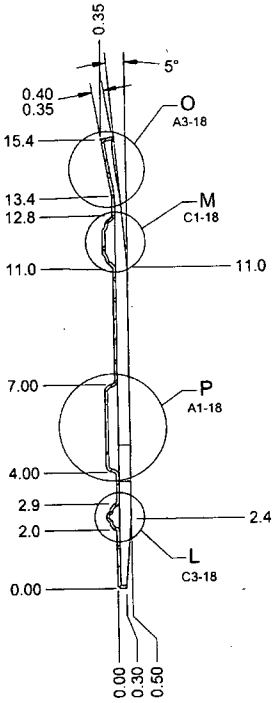
SECTION A-A
SECTION A'-A' OPPOSITE B3-13 B3-14
SCALE 2X



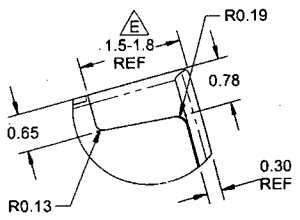
SECTION B-B B7-13 B7-14
SCALE 2X



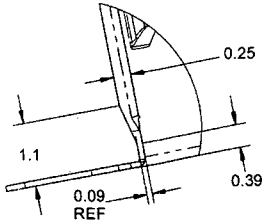
SECTION G-G B4-15 B4-16
SCALE 2X



SECTION K-K C6-16
SCALE 2X



AUXILIARY VIEW R-R
SECTION R'-R' OPPOSITE D7-17
SCALE 2X

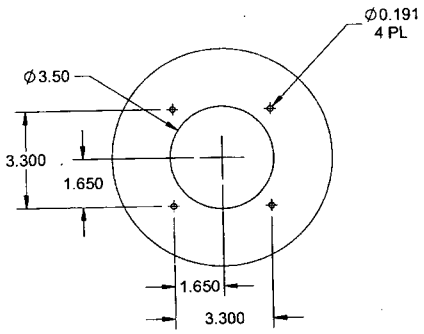


AUXILIARY VIEW S-S
SECTION S'-S' OPPOSITE B7-17
SCALE 2X

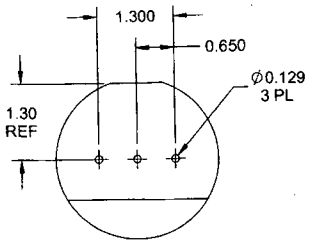
RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. E
CHECKED	DC	D4635	SHEET 17 OF 18
MFG. APPR.		TITLE	SCALE
APPROVED		OUTBOARD CEILING PANELS	NTS
DE APPR.			
DATE	14.01.09		

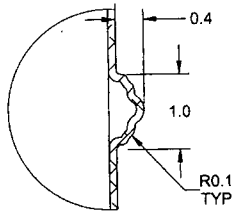
COPYRIGHT © 2012 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DIVULGED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD



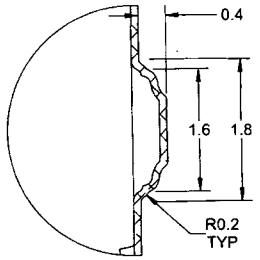
DETAIL D B4-13 B3-14 B5-15 B5-16
SCALE 2X



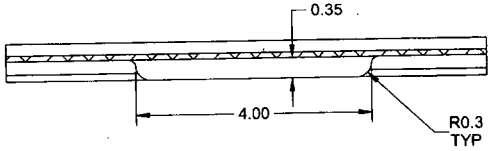
DETAIL E C7-13 B6-14 C6-15 B5-16
SCALE 4X



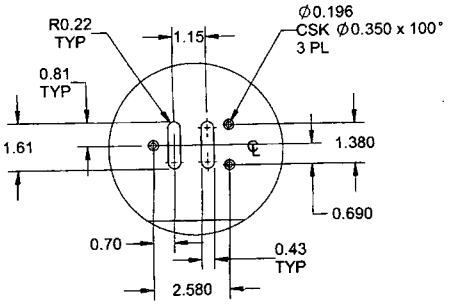
DETAIL L B2-17 B4-17 C5-17 C7-17
SCALE 1.5X



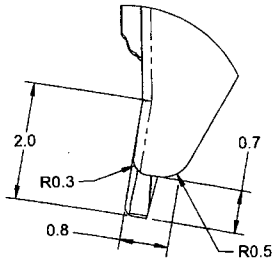
DETAIL M C2-17 C3-17 C5-17 C7-17
SCALE 1.5X



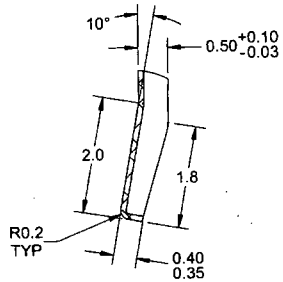
SECTION I-I B5-16
SCALE 4X



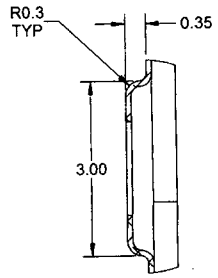
DETAIL Q C5-16
SCALE 2X



DETAIL N B2-13
SCALE 2X



DETAIL O D2-17 D3-17 B5-17
SCALE 2X



DETAIL P C2-17
SCALE 4X

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4635 REV. E
MFG. APPR.		SHEET 18 OF 18
APPROVED		TITLE OUTBOARD CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.01.09	

COPYRIGHT © 2012 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART AEROSPACE LTD

Description: Aft Ceiling Panel RW	Work Order: 119252
Inspection Drawing: 4635-4 Rev: E	Part Number: D4635-4

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.80	+/-0.030	3.80	✓		Vern	SEAB-08
17.00	+/-0.030	17.00	✓		M-T	SEAB-21
32.00	+/-0.030	32.00	✓		"	"
7.47	+/-0.030	7.47	✓		Vern	SEAB-08
20.5	+/-0.100	20.5	✓		M-T	SEAB-21
26.5	+/-0.100	26.5	✓		"	"
7.0	+/-0.100	7.00	✓		Vern	SEAB-08
5.50	+/-0.030	5.50	✓			
Ø2.03	+0.012 -0.001	Ø2.03	✓			
3.300	+/-0.010	3.300	✓			
1.650	+/-0.010	1.650	✓			
3.300	+/-0.010	3.300	✓			
1.650	+/-0.010	1.650	✓			
Ø0.191	+0.005 -0.001	Ø0.191	✓			
Ø3.50	±0.010	Ø3.50	✓			
1.300	+/-0.010	1.300	✓			
0.650	+/-0.010	0.650	✓			
Ø0.129	+0.005 -0.001	Ø0.129	✓			
1.380	+/-0.010	1.380	✓			
0.43	+/-0.030	0.43	✓			
1.61	+/-0.030	1.61	✓			

Measured by: SAD Date 11/06/12	Checked By: DAS 27 9-89 Date 14/6/13	QC inspector: DAS 27 9-89 Date 14/6/13	Engineering Approval (*if necessary*): Date